Energy Efficiency/Renewable Energy Measures in Western Regional Haze SIPS

Sandra Ely

New Mexico Environment Department

Federal Regional Haze Rule

- Purpose is to return visibility in the nation's 156 Class I Areas to natural conditions by 2064.
- Sec 308: States must consider all sources of haze and submit a SIP in 2008.
- Sec 309: States must implement established strategies and submit a SIP by Dec 2003.

Federal Regional Haze Rule Section 309

- Grand Canyon Visibility Transport Commission (GCVTC) made recommendations for reducing haze on the Colorado Plateau
- Tribes and nine western states were eligible to submit 309 TIP/SIPs. Five states submitted SIPs in 2003 (OR, UT, NM, AZ, WY).
- The Western Regional Air Partnership (WRAP) (successor to the GCVTC) assisted states with SIP development.

309 Renewable Energy Goals

- GCVTC: Renewable and energy efficient measures could result in “emissions reductions, improvements in visibility and provide secondary environmental and economic benefits to the region.”
- Every GWH of renewables production primarily displaces natural gas or coal-fired generation.
- Every GWH of electricity not consumed through energy efficiency reduces NG or coal-fired generation.

309 Renewable Energy Goals

- 10 % renewable energy by 2005 and 20% by 2015.
- The goal is not enforceable and states are not required to meet them.
- States are required to assess progress toward meeting goals.

RHR: Pollution Prevention (40CFR 51.309(d)(8))

- Requires a description of energy status as of 2002 and programs that will move the state towards renewable energy goals and improved energy efficiency.
- Requires projection of emission reductions, visibility improvements and other benefits associated with these activities.
- Requires progress reports every five years starting in 2003.

Regional Modeling Analysis

- The WRAP commissioned a modeling analysis to assess the potential impacts of meeting the 10/20 goals.
- Regional SO2 emissions are predicted to be that of the 2018 SO2 target for the cap and trade program (509,000 TPY).
- Goals could decrease the cost of compliance with the cap by as much as $7 M (or ten percent of projected costs) and displace the need for 1,700 MW of new scrubber capacity.

Regional Modeling Analysis

- Regional utility NOx emissions are predicted to decline by about 14 TPY by 2018 (2% against baseline).
- New Mexico accounts for about half of these reductions.
- CO2 emissions are predicted to drop 10 to 14 % below baseline.

Regional Modeling Analysis

- Predicts the 10/20 renewable goals along with energy efficiency measures will reduce annual levelized electricity production costs by approximately $700 M.
- Predicts an increase in regional economic activity especially in the early years because of initial investments and construction.

EE/RE Benefits

- Reduction in criteria pollutants though slight
- Probably little discernible impact on visibility
- Reduction in CO2 emissions
- Economic Benefits to the Region

Notable New Mexico Activities

- NM has abundant clean energy sources
  - Ranked 2nd nationally in solar energy resources
  - Ranked 12th in wind potential
  - Significant geothermal resources
- Governor Richardson declared NM the "Clean Energy State"

Notable New Mexico Activities

- Renewable Portfolio Standard requiring 10% of energy sales from renewable sources by 2011.
- Green Power Marketing requiring utilities to offer voluntary renewable energy tariffs for customers wishing to purchase additional renewable power.

Large-scale Wind Power

- FPL Energy-PNM 204 MW Wind Farm House, NM 3rd largest in the nation!

Notable New Mexico Activities

- Renewable Energy Production Tax Credit
  - 1¢/kWh - one of only 2 states
  - Stimulated 400+ MW of wind, interest in biomass
- Public Facility Energy Efficiency Act
  - “Performance Contracting”: No up-front capital outlays; efficiency upgrades costs paid from energy savings
  - To date: $4.4 million/yr in cost savings

Notable New Mexico Activities

- Efficient Use of Energy Act
  - Requires electric and gas utilities to develop "cost effective" energy efficiency programs
  - Could result in $20+ million/year in efficiency programs statewide
- EE & RE Bonding Act
  - $20 M for clean energy renovations at state buildings, public schools, colleges and universities
  - Utility bill savings are "captured" from participating agencies and used to pay debt service on bonds with no GF impact